

CLAIMS

1. A monolithic photodetector including a photodiode, a precharge MOS transistor, a control MOS transistor, and a read MOS transistor, the photodiode and the precharge transistor being formed in a same substrate of a first conductivity type, wherein  
5 the photodiode includes a first region of a second conductivity type formed under a second region of the first conductivity type more heavily doped than the substrate, and under a third region of the second conductivity type, more heavily doped than the first region, the second and third regions being separate, the first region forming a source region of the second conductivity type of the precharge MOS transistor, the second and  
10 third regions being connected, respectively, to a fixed voltage and to a gate of the control transistor.

2. The photodetector of claim 1, further including a well of the first conductivity type, more heavily doped than said substrate, in which the first region is  
15 formed.

3. The photodetector of claim 1, wherein the first conductivity type is type P and the second conductivity type is type N.

20 4. The photodetector of claim 2, wherein the substrate, the well, and the second region are maintained at a low reference voltage of the circuit.